Electronic publication of balancing data: information for the use of market operators

In order to ensure the balance of its control area, Elia has established a balancing mechanism using the control tools provided by some of its grid users. Elia covers the resultant costs by applying a charge to any imbalances of the ARPs. Imbalance billing is cost-reflective and rigorously keeps to the tariffs that have been put in place. To maximise the transparency of how Elia handles the whole balancing process, a wide range of information directly linked to those operations is published on the Elia website. Publishing these data is also an ideal way of providing information to all the market players.

For further details of the balancing mechanism or the imbalance charge, see the sheets "The balancing mechanism: ensuring the balance of the Elia control area" and "Imbalance tariffs: compensation tariffs as an incentive to maintain balance".

I. Online balancing data: principles

To ensure the stability of the European interconnected system, the European Network of Transmission System Operators for Electricity (**ENTSO-E**) demands that electricity production and consumption always be balanced. Every system operator in ENTSO-E is responsible for maintaining balance in its control area. In Belgium, Elia fulfils this obligation and the ARPs are, on an individual basis, responsible for maintaining the balance of all the injections and offtakes in the control area (the 'balancing perimeter'). The ARPs use all the tools at their disposal to maintain their balance. In addition, Elia is always making adjustments and compensations to restore balance across the whole of its control area. This is known as the balancing mechanism. Elia needs various control tools, including the secondary and tertiary reserves, to implement this mechanism. The costs involved in the control tools used by Elia are passed on to the ARPs in the form of 'imbalance tariffs' (tariffs for maintaining and restoring the individual balance of access responsible parties).

Elia publishes on its website the data about the balancing mechanism and about the control tools used, as well as the parameters that are used to determine the imbalance tariff.

I.1. Online publication to improve transparency and information provision

In a bid to ensure transparency and provide information to the market, Elia publishes on its website a whole series of data directly associated with the balancing mechanism. This is of use to all the market players and in particular the ARPs. The information mainly covers:

- available regulation capacity: regulation capacity at Elia's disposal to maintain balance in its control area;
- regulation-capacity use: capacity actually used by Elia to adjust the balance in its control area;
- imbalance price: prices that the ARPs have to pay if there is an imbalance in their individual perimeter - the prices reflect the costs incurred by Elia in restoring balance in its control area;
- current system imbalance: the instantaneous imbalance and reserves that Elia has activated at a given moment in its control area.

I.2. Available regulation capacity

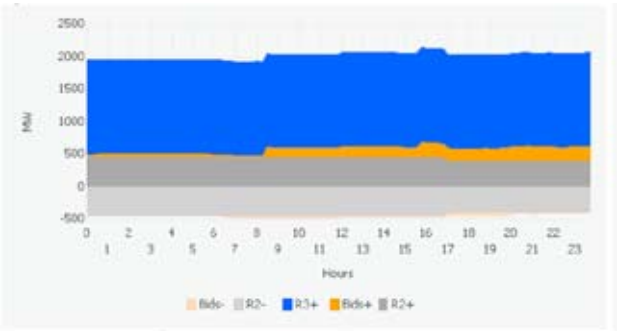
This information can be consulted at www.elia.be under the section "Operational data & tools"

On day D-1, Elia publishes information about volumes and prices of power reserves provided by its suppliers. On day D, Elia can activate those reserves to compensate any imbalances in its control area. Therefore, the information relates to the secondary reserve (see the product sheet on the secondary reserve) and the tertiary reserves (see the product sheets on the tertiary production reserve and interruptibility). The data are updated on day D.

For maximum clarity, Elia publishes the information about volumes and prices separately.

Information about volumes

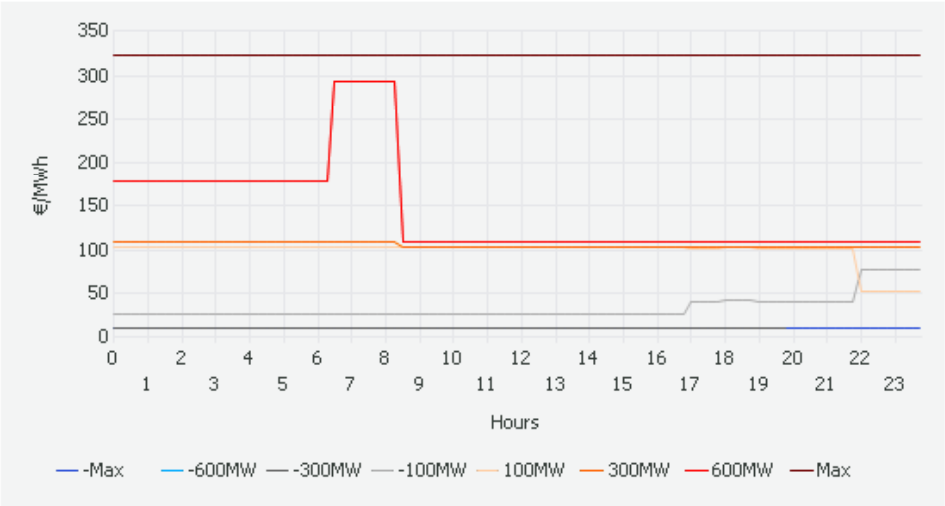
This general information is published in the form of a chart and a daily table. They present the quarter-hourly regulation capacity data for each type of regulation capacity reserve provided to Elia on day D-1 for day D.



	Downward regulation			Upward regulation			
Quarter	Total (MW)	Bids- (MW)	R2- (MW)	R2+ (MW)	Bids+ (MW)	R3+ (MW)	Total (MW)
03/01/2012 00:00->00:15	-448,2	-11,4	-436,8	436,8	54	1449	1939,8
03/01/2012 00:15->00:30	-443,2	-6,4	-436,8	436,8	59	1449	1944,8
03/01/2012 00:30->00:45	-438,2	-1,4	-436,8	436,8	64	1449	1949,8
03/01/2012 00:45->01:00	-437	-0,2	-436,8	436,8	65,2	1449	1951
03/01/2012 01:00->01:15	-441	-4,2	-436,8	436,8	61,2	1449	1947
03/01/2012 01:15->01:30	-441	-4,2	-436,8	436,8	61,2	1449	1947

Information about prices

This information is published in the form of a chart and a daily table and presents the quarter-hourly data showing prices bid (by the suppliers of regulation capacity) for activation of the relevant regulation capacity provided to Elia on day D-1 for day D.



	Marginal prices (€/MWh) for activation of							
Quarter	-Max	-600MW	-300MW	-100MW	100MW	300MW	600MW	Max
03/01/2012 00:00 -> 00:15	10,28		10,28	25,52	103,80	110,15	179,49	323,60
03/01/2012 00:15 -> 00:30	10,28			25,52	103,80	110,15	179,49	323,60
03/01/2012 00:30 -> 00:45	10,28			25,52	103,80	110,15	179,49	323,60
03/01/2012 00:45 -> 01:00	10,28			25,52	103,80	110,15	179,49	323,60

All this information can be downloaded in Excel and CSV formats, meaning that visitors to www.elia.be can easily consult the data and save them on their computer systems.

I.3. Regulation-capacity use

On day D, Elia publishes quarter-hourly data concerning the volumes and prices of capacity used by Elia to compensate the imbalances in its control area. They are the elements taken into account by Elia in billing an imbalance. The data are given in a table and are updated on a quarter-hourly basis with the data for the previous quarter-hour. This means that, for example, the data from 3.45 p.m. will be updated at 4 p.m.

For maximum transparency, Elia publishes separate data about volumes and about prices.

Data about volumes

These data are published in a table. They indicate for each quarter-hour and for each type of reserve the regulation capacities that have been activated by Elia to maintain the balance of the control area.

Volumes | Prices

Non validated data for 03/01/2012

03/01/2012

Export to Excel
Export to CSV

		Upward regulation Volume				Downward regulation Volume			
Quarter	NRV (MW)	GUV (MW)	R2+ (MW)	Bids+ (MW)	R3+ (MW)	GDV (MW)	R2- (MW)	Bids- (MW)	R3- (MW)
00:00 > 00:15	-42,7					42,7	42,7		
00:15 > 00:30	-128,6					128,6	128,6		
00:30 > 00:45	-145,6					145,6	145,6		
00:45 > 01:00	-145,6					145,6	145,6		
01:00 > 01:15	-310,4					310,4	145,2	165,2	
01:15 > 01:30	-345,6					345,6	145,6	200,0	
01:30 > 01:45	-182,2					182,2	145,6	36,6	
01:45 > 02:00	-145,8					145,8	145,6	0,2	
02:00 > 02:15	-243,0					243,0	119,0	4,0	120,0
02:15 > 02:30	-264,8					264,8	140,6	4,2	120,0
02:30 > 02:45	-268,3					268,3	145,6	2,7	120,0
02:45 > 03:00	-266,3					266,3	145,6	0,7	120,0

Data about prices

These data are published at the same time in a table. They indicate for each quarter-hour and for each type of reserve the maximum (for upward regulation) and minimum (for downward regulation) prices of the regulation capacities that have been activated by Elia to maintain the balance of the control area.

Volumes | Prices

Non validated data for 03/01/2012

03/01/2012

Export to Excel
Export to CSV

		Incremental Prices				Decremental Prices			
Quarter	NRV (MW)	MIP (€/MWh)	R2+ (€/MWh)	Bids+ (€/MWh)	R3+ (€/MWh)	MDP (€/MWh)	R2- (€/MWh)	Bids- (€/MWh)	R3- (€/MWh)
00:00 > 00:15	-42,7					38,67	38,67		
00:15 > 00:30	-128,6					38,67	38,67		
00:30 > 00:45	-145,6					38,67	38,67		
00:45 > 01:00	-145,6					38,67	38,67		
01:00 > 01:15	-310,4					0,00	38,67	0,00	
01:15 > 01:30	-345,6					0,00	38,67	0,00	
01:30 > 01:45	-182,2					0,00	38,67	0,00	
01:45 > 02:00	-145,8					10,28	38,67	10,28	
02:00 > 02:15	-243,0					-15,02	38,67	10,28	-15,02
02:15 > 02:30	-264,8					-15,02	38,67	10,28	-15,02
02:30 > 02:45	-268,3					-15,02	38,67	10,28	-15,02
02:45 > 03:00	-266,3					-15,02	38,67	10,28	-15,02

The prices published on day D are based on the regulation capacity bids submitted to Elia by its suppliers on day D 1. The data about capacity activated by Elia on day D are published:

- in non-validated form on day D, on a quarter-hourly basis;
- in validated form in the course of the month following day D.

In addition to this information, Elia also publishes historical validated adjustment data covering 1 January 2006 onwards.

All this information can be downloaded in Excel and CSV formats, meaning that visitors to the site www.elia.be can easily consult the data and save them on their computer systems.

I.4. Imbalance price

Elia publishes the data about imbalance prices in tables and charts. The prices are calculated on a quarter-hourly basis based on the prices of the activations made by Elia to restore the balance of the area. The data are updated on a quarter-hourly basis with the data for the previous quarter-hour. This means that, for example, the data from 3.45 p.m. will be updated at 4 p.m.

Specifically, Elia publishes the data on:

- net regulation volume (NRV) (in MW);
- system imbalance (SI) (in MW);
- additional price component α (in €/MWh);
- marginal incremental price (MIP) (in €/MWh);
- marginal decremental price (MDP) (in €/MWh);
- (positive or negative) prices owed by those ARPs that have a positive balancing perimeter (in €/MWh);
- prices owed by those ARPs that have a negative balancing perimeter (in €/MWh).

This general information is published at the same time in a daily chart and a daily table.

Table

Values | Chart

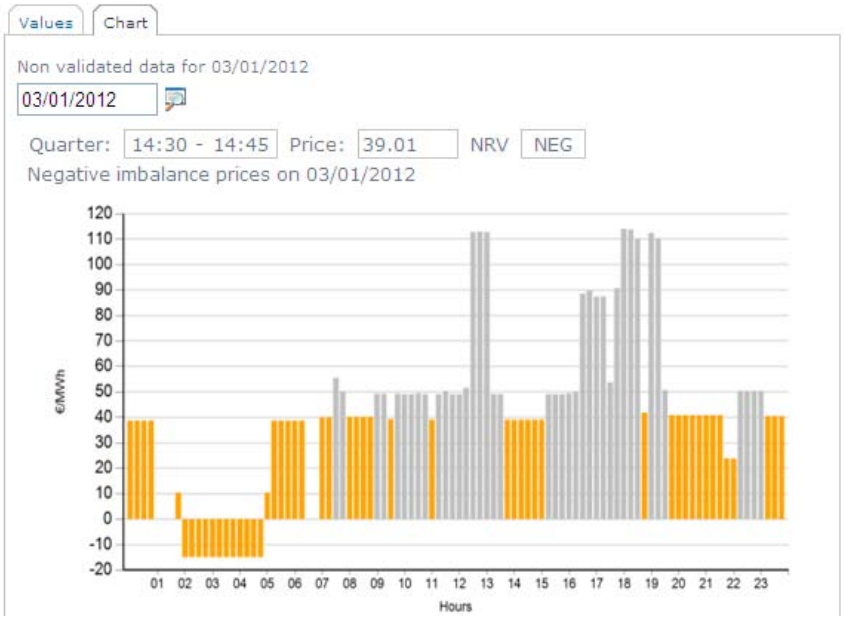
Non validated data for 03/01/2012

03/01/2012

Export to Excel
Export to CSV

Quarter	NRV (MW)	SI (MW)	α (€/MWh)	MIP (€/MWh)	MDP (€/MWh)	POS (€/MWh)	NEG (€/MWh)
00:00 > 00:15	-42,7	26,9	0,00	0,00	38,67	38,67	38,67
00:15 > 00:30	-128,6	307,8	2,15	0,00	38,67	36,53	38,67
00:30 > 00:45	-145,6	334,0	3,00	0,00	38,67	35,68	38,67
00:45 > 01:00	-145,6	464,6	4,75	0,00	38,67	33,93	38,67
01:00 > 01:15	-310,4	383,0	5,66	0,00	0,00	-5,66	0,00
01:15 > 01:30	-345,6	641,8	9,05	0,00	0,00	-9,05	0,00
01:30 > 01:45	-182,2	674,4	12,61	0,00	0,00	-12,61	0,00
01:45 > 02:00	-145,8	400,1	13,30	0,00	10,28	-3,02	10,28
02:00 > 02:15	-243,0	224,2	13,72	0,00	-15,02	-28,74	-15,02
02:15 > 02:30	-264,8	333,9	13,86	0,00	-15,02	-28,88	-15,02
02:30 > 02:45	-268,3	449,1	14,61	0,00	-15,02	-29,63	-15,02
02:45 > 03:00	-266,3	537,8	15,22	0,00	-15,02	-30,24	-15,02

Graph



The data for day D are published:

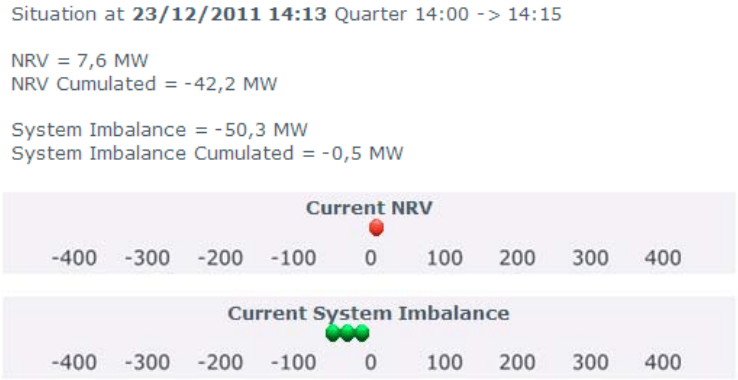
- in non-validated form on day D, on a quarter-hourly basis;
- in validated form in the course of the month following day.

The validated data are used to bill the access responsible parties' individual imbalances

All this information can be downloaded in Excel and CSV formats, meaning that visitors to the site www.elia.be can easily consult the data and save them on their computer systems.

I.5. Current system imbalance

Elia publishes the instantaneous system imbalance values and the net sum of activations of reserves by Elia (NRV). In both cases the cumulative value is also indicated from the start of the quarter-hour in question.



The information is published in charts that are updated every two minutes. This chart enables the access responsible parties to estimate the cost of any imbalance they may experience (see the sheet on imbalance charges).

II. The benefits: transparency and information for the market

The data published by Elia is of great interest to many market players for a number of reasons:

- the data mean that those users of the market that provide Elia with power reserves or other services of that type have information at their disposal enabling them to position themselves in relation to their competitors. Furthermore, grid users that are planning to supply Elia with these services can assess the economic value of the services and tailor their bid accordingly;
- access responsible parties can use the information to:
  - evaluate on day D 1 the imbalance prices that will apply on day D, based on information about regulation capacity and prices for the activation of this capacity;
  - manage their imbalance in real time, making use of the imbalance estimate they have made, the estimate they have made of imbalance prices and the instantaneous snapshot of the imbalance of the control area as a whole;
  - estimate after day D their imbalance bill before it is issued by Elia.
- market players whose contracts incorporate price formulas that make use of the information published by Elia can estimate some of their costs;
- publication of this information provides the whole market with a guarantee of transparency regarding how Elia manages the balancing mechanism.

III. Legal and contractual basis

By making publication of prices applied to individual imbalances a legal requirement, the federal Grid Code bears out Elia's desire for transparency.

Electronic publication of balancing data in 5 key points

- On its website Elia publishes a wide range of information about the balancing mechanism. These data can easily be consulted by anyone.
- Elia guarantees maximum transparency at every stage of the balancing mechanism process and the procedure of drawing up imbalance prices.
- By publishing on its website information about the balancing mechanism and drawing up imbalance prices, Elia helps improve the operation of the market.
- The data published by Elia enable the ARPs to check and make sense of their bills.
- Publication of this information enables energy producers to objectively assess the benefit they can derive by offering their services to Elia to compensate imbalances in the Elia control area.

I4-E-12.03.2012 / Non-contractual document / Editor: J. Vandermeiren, Bd de l'Empereur 20, 1000 Brussels